

# involucrin (N-17): sc-15223

## BACKGROUND

Involucrin is a precursor protein of the keratinocyte cornified envelope, which is formed beneath the inner surface of the cell membrane during terminal differentiation. Involucrin first appears in the cell cytosol but ultimately becomes cross-linked to membrane proteins by transglutaminase. During keratinocyte terminal differentiation, glutamine residues of involucrin become covalently cross-linked to other envelope precursors via covalent  $\epsilon$ -( $\gamma$ -glutamyl) lysine bonds. Moreover, its large size allows involucrin to cross-link molecules that are separated by substantial distances in the cornified envelope. These properties allow a single involucrin molecule to form multiple cross-links, in multiple spatial planes, with other envelope precursors. Involucrin is specifically expressed in Chinese hamster ovarian cells (fibroblasts), PtK2 rat kangaroo kidney cells (simple epithelial), and rat epidermal keratinocytes (stratifying squamous epithelial).

## CHROMOSOMAL LOCATION

Genetic locus: IVL (human) mapping to 1q21.3.

## SOURCE

involucrin (N-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of involucrin of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-15223 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

involucrin (N-17) is recommended for detection of involucrin of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for involucrin siRNA (h): sc-35697, involucrin shRNA Plasmid (h): sc-35697-SH and involucrin shRNA (h) Lentiviral Particles: sc-35697-V.

Molecular Weight of involucrin precursor: 68 kDa.

Molecular Weight of involucrin complexed with other proteins: 140 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, CCD-1064Sk cell lysate: sc-2263 or A-431 + EGF/PE whole cell lysate: sc-24802.

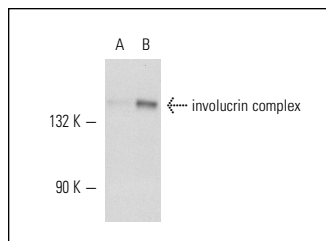
## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

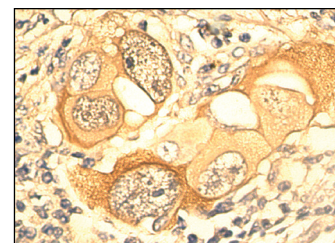
## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## DATA



involucrin (N-17): sc-15223. Western blot analysis of involucrin complex expression in untreated A-431 (A) and EGF-induced A-431 (B) whole cell lysates.



involucrin (N-17): sc-15223. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lung tumor tissue showing cytoplasmic localization

## SELECT PRODUCT CITATIONS

1. Zhou, J.X., et al. 2004. Enrichment and identification of human "fetal" epidermal stem cells. *Hum. Reprod.* 19: 968-974.
2. Zhou, J.X., et al. 2004. Enrichment and characterization of mouse putative epidermal stem cells. *Cell Biol. Int.* 28: 523-529.
3. Alvarez-Salas, L.M., et al. 2005. YY-1 and c-Jun transcription factors participate in the repression of the human involucrin promoter. *Int. J. Oncol.* 26: 259-266.
4. Sumita, N., et al. 2006. Stat3 activation is required for cell proliferation and tumorigenesis but not for cell viability in cutaneous squamous cell carcinoma cell lines. *Exp. Dermatol.* 15: 291-299.
5. Pi, J., et al. 2008. Arsenic-induced malignant transformation of human keratinocytes: involvement of Nrf2. *Free Radic. Biol. Med.* 45: 651-658.
6. Lei, X.H., et al. 2011. NASA-approved rotary bioreactor enhances proliferation of human epidermal stem cells and supports formation of 3D epidermis-like structure. *PLoS ONE* 6: e26603.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **involucrin (SY5): sc-21748** or **involucrin (H-8): sc-398221**, our highly recommended monoclonal alternatives to involucrin (N-17). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **involucrin (SY5): sc-21748**.